



## Hyspin HLP-D 32

Detergent Hydraulic Oil

### Description

The Hyspin HLP-D hydraulic oil range of lubricants are based upon highly refined mineral oil enhanced with a zinc additive system. They also contain detergent and dispersant additives.

### Application

Hyspin HLP-D oils are for use primarily in machine tool hydraulic systems, gears and clutch drives and in mobile hydraulic systems used outdoors. These oils can tolerate high levels of water contamination, either from the outdoors environment or by water miscible cutting oils when used in machine tool equipment, and still provide effective lubrication. Such contamination can cause corrosion and seizure of hydraulic components. The detergent /dispersant properties of Hyspin HLP-D oils maintain the performance of hydraulic systems under these circumstances. In hydraulic cylinders operating at low speeds, Hyspin HLP-D oils prevent erratic movement and stick/slip between seals and shafts, greatly reducing seal wear. Hyspin HLP-D oils are suitable for mobile equipment where multi-disc clutches are employed, They permit higher torques to be transmitted, and maintain smooth clutch operation, short engagement times, and low rates of clutch wear. The Hyspin HLP-D range is fully compatible with nitrile, silicone and fluropolymer seal materials. Hyspin HLP-D is classified as follows: DIN classification - HLP-D ISO 6743/4 - Hydraulic Oils Type HM Hyspin HLP-D grades meet the requirements of: DIN 51524 Part 2 (except for demulsification)

### Advantages

- Smooth functioning of sliding parts in hydraulic systems and machine tools.
- Good surface wetting properties provide smooth sliding of seals on hydraulic pistons and rods and reduces corrosion.
- Excellent corrosion protection in arduous conditions.
- Maintains performance in 'wet' operating conditions, eg outdoor equipment, machining operations.

## Characteristics

Test	Method	Units	15	22	32
Density @ 15°C	ISO 12185 / ASTM D4052	g/ml	0.87	0.88	0.88
K.V. @ 40°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	10	22	32
K.V. @ 100°C	ISO 3104 / ASTM D445	mm <sup>2</sup> /s	2.55	4.25	5.4
Viscosity Index	ISO 2909 / ASTM 2270	-	-	>95	>95
Pour Point	ISO 3016 / ASTM D97	°C	-30	-27	-27
Flash Point, PMC	ISO 2719 / ASTM D93	°C	160	160	200
Foam Sequence I	ISO 6247 / ASTM D892	mls/mls	50/0	50/0	50/0
FZG (A8.3/90), fail stage	ISO 14635-1 / DIN 51354	-	-	-	12
Rust Test (24 hrs synthetic sea water)	ISO / 7210 / ASTM D665B	-	Pass	Pass	Pass

## Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration of drum markings. Products should not be stored above 60°C, exposed to hot sun or freezing conditions.

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